2010-10-14 Thursday Morning Notes

Thursday, October 14, 2010
6:00 AM

On-call

- Wednesday and Thursday: DVM

Access

- Experts found the vacuum leak at the far downstream end of the AP1 line behind the shielding blocks. There is a Beryllium window assembly behind the shielding wall that goes in a foot or two. Repairs have the complications the sweeping magnet and electronics would have to be moved and radiation issues. Looking into long term repairs, but also short term repairs if this gets worse of putting an additional vacuum window upstream of the shielding wall and just rough the short leaky section.

Stacking

- Stacking Numbers
  - <stacking rate>= 26.6 mA/hr
  - <production>= 25.7 pbars/Mp
  - <beam on target>= 8.25 Tp

Transfers

- Unstacked 217e10 in 16 transfers over 4 sets.
- <overall efficiency>=93.7
- Efficiency number down due to lower efficiency on set 21231 (123mA, 92%) and 21235 (51mA, 95.1%)

Requests

- Test 2.6 second cycle time

The Numbers

- Stacking
  - Pbars stacked: 116.28 E10
  - Time stacking: 05.44 Hr
  - Average stacking rate: 21.37 E10/Hr

- Uptime
  - Number of pulses while in stacking mode: 6985
  - Number of pulses with beam: 5817
  - Fraction of up pulses was: 83.28%

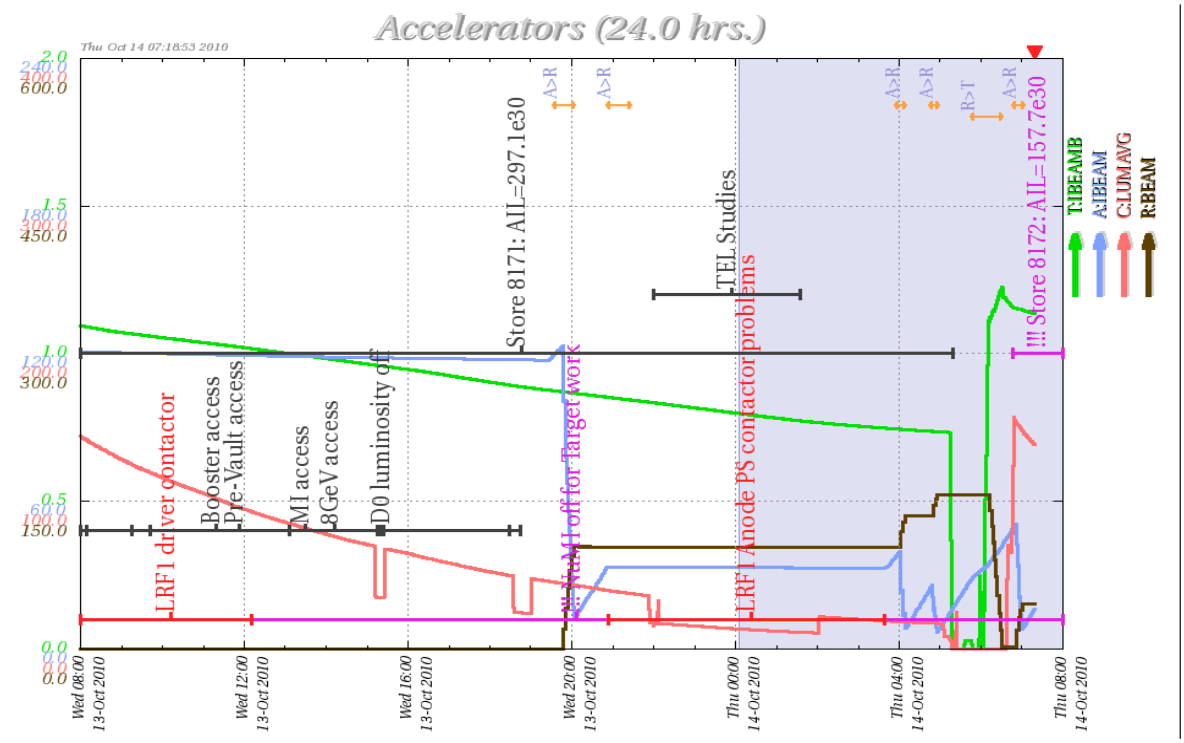
- The uptime's effect on the stacking numbers
  - Corrected time stacking: 04.53 Hr
  - Possible average stacking rate: 25.66 E10/Hr
  - Could have stacked: 139.63 E10/Hr

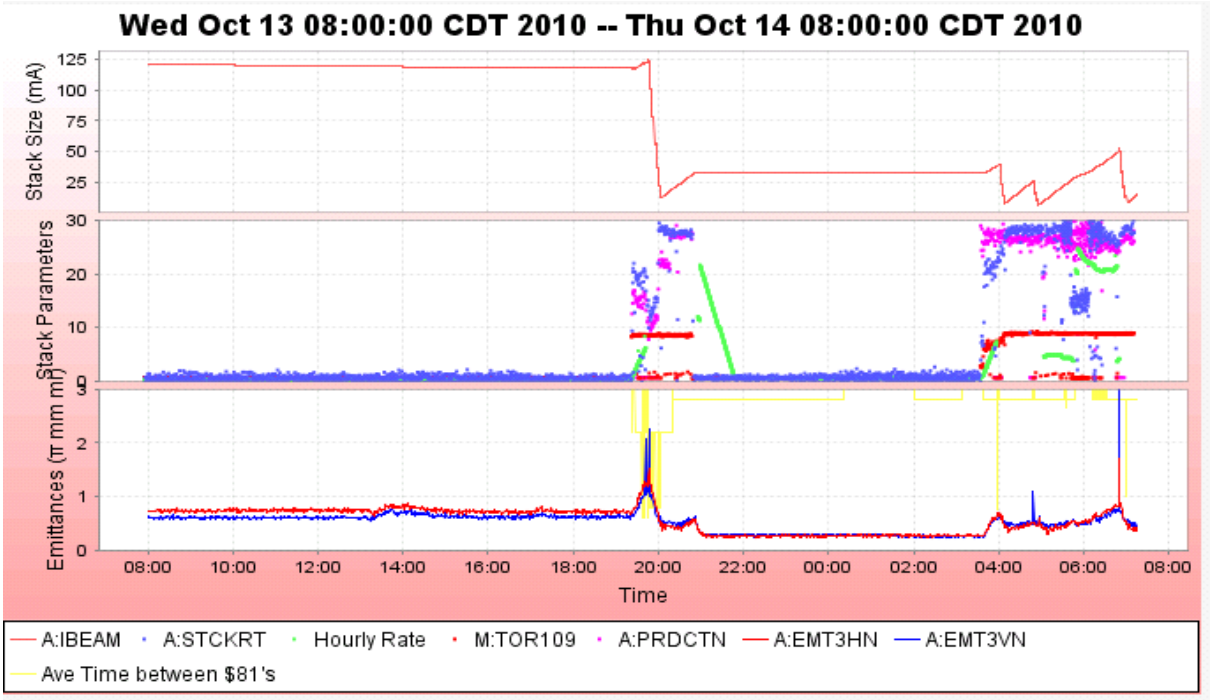
- Recycler Transfers
  - Pbars sent to the Recycler: 210.03 E10
  - Number of transfers : 15
  - Number of transfer sets: 4
  - Average Number of transfer per set: 3.75
  - Time taken to shoot including reverse proton tuneup: 00.05 Hr

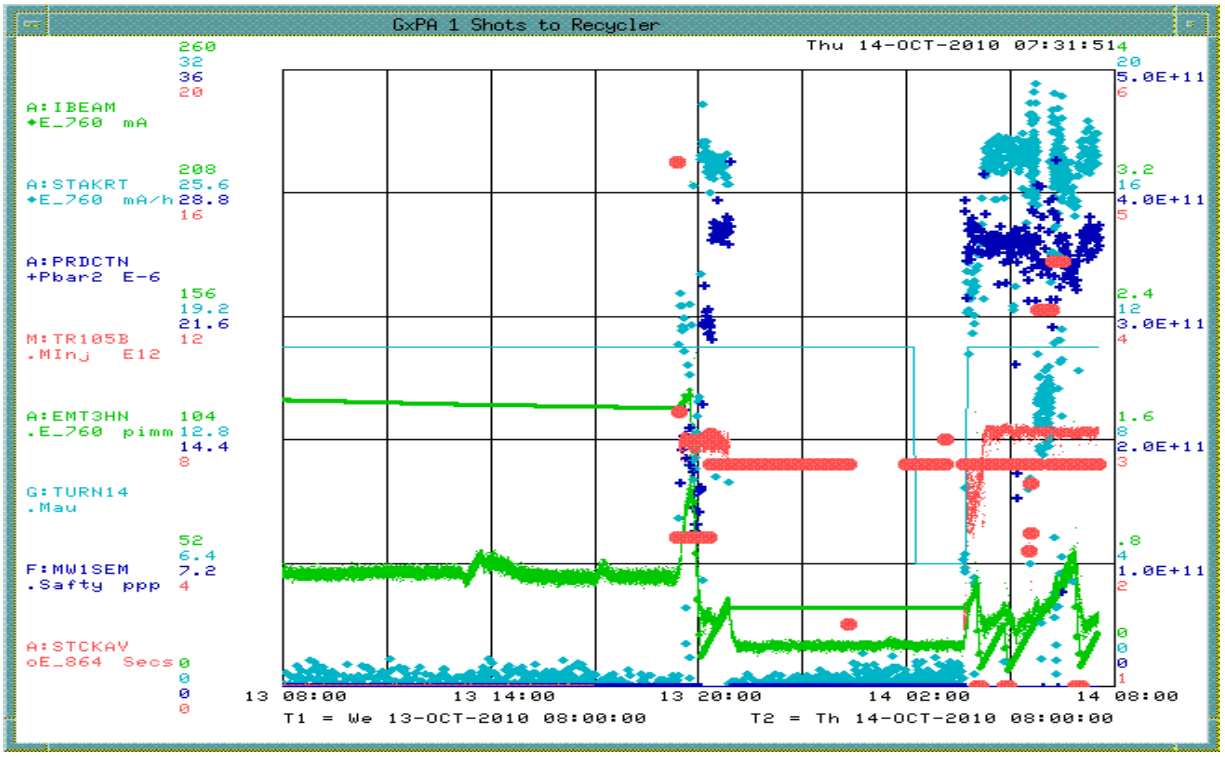
- Transfer efficiency: 93.62%

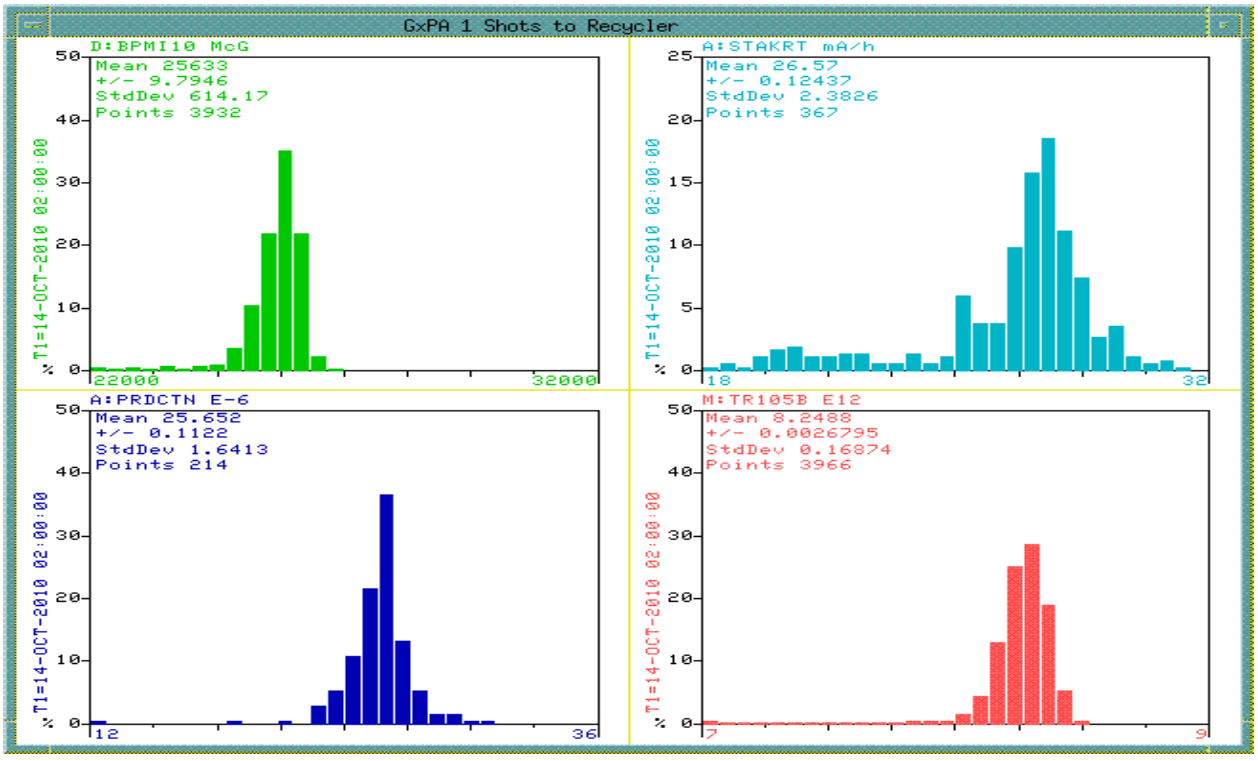
- Other Info
  - Average POT : 7.87 E12
  - Average production: 25.41 pbars/E6 protons

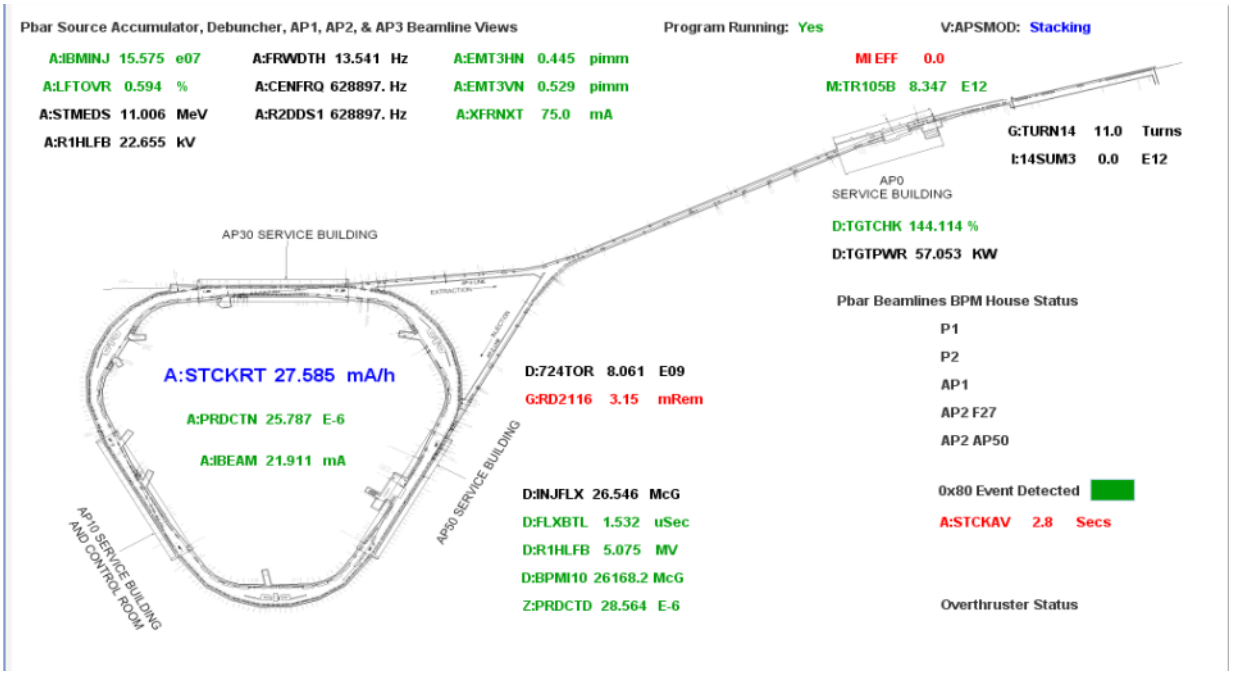
The Plots






GxPA 1 Shots to Recycler
Thu 14-OCT-2010 07:31:51
A:IBEAM
+E_760 mA
A:STAKRT
+E_760 mA/h
A:PRDCTN
+Pbar2 E-6
M:TR105B
.MInj E12
A:EMT3HN
.E_760 pimm
G:TURN14
.Mau
F:MW1SEM
.Safty ppp
A:STCKAV
oE_864 Secs
13 08:00
13 14:00
13 20:00
14 02:00
14 08:00
T1 = We 13-OCT-2010 08:00:00
T2 = Th 14-OCT-2010 08:00:00


GxPA 1 Shots to Recycler
D:BPMI10 McG
Mean 25633
+/- 9.7946
StdDev 614.17
Points 3932
A:STAKRT mA/h
Mean 26.57
+/- 0.12437
StdDev 2.3826
Points 367
A:PRDCTN E-6
Mean 25.652
+/- 0.1122
StdDev 1.6413
Points 214
M:TR105B E12
Mean 8.2488
+/- 0.0026795
StdDev 0.16874
Points 3966
T1=14-OCT-2010 02:00:00



Column 1 Number_0_Pbar Transfer Shot #	Column 4 Number_3_Transfer Time		Column 21 Number_20_A:IBEAMB sampled on $91 (A:BEAM7), E10	Column 22 Number_21_A:IBEAMB sampled on $94 (A:BEAM9), E10	Unstacked (mA)	Column 23 Number_22_R:BEAMS (R:BEAME0[0]) pre xfer E10	Column 24 Number_23_R:BEAM (R:BEAME0[1]) post xfer, E10	Stashed	Acc to RR Eff	Acc to MI Eff	Acc to MI2 Eff	Acc to MI * Acc to MI2 Efficiency	Transfers	Sets	Column 5 Number_4_Acc Horizontal Emittance	Column 6 Number_5_Acc Vertical Emittance	Column 8 Number_7_Acc Longitudinal Emittance
	Totals =>				216.58			203.09	93.77%	96.55%	96.56%	93.23%	16	4	6.0738	5.5963	1.8158
	Daily Average =>				216.58			203.09					16	4			
21235	Thursday, October 14, 2010	6:51	50.70	8.24	46.17	2.28	45.97	43.90	95.09%	97.63%	98.38%	96.05%	4	1	6.198	5.505	1.811
21234	Thursday, October 14, 2010	4:49	26.38	6.70	22.22	135.36	156.78	21.53	96.90%	100.14%	100.53%	100.67%	3	1	4.313	4.646	1.988
21233	Thursday, October 14, 2010	4:01	39.66	7.84	33.97	103.02	135.53	32.64	96.06%	98.00%	97.79%	95.84%	3	1	5.355	5.04	1.855
21231	Wednesday, October 13, 2010	19:47	123.09	12.11	114.23	0.33	104.14	105.03	91.95%	94.99%	94.69%	89.94%	6	1	8.428	7.194	1.609